

REMARKS

The last Office Action of October 30, 2008 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-20 are pending in the application. Claims 1, 11, 15, 20 have been amended. No claims have been canceled or added. No amendment to the specification have been made. No fee is due.

The amendments to claims 1, 11, 15, 20 are appropriate under the standards established pursuant to 37 C.F.R. §1.116 in that the claims are in better form for consideration on appeal in the event that the rejection of these claims on other grounds discussed below is not withdrawn. It is also respectfully submitted that the amendments remove issues for appeal.

Claims 1, 11 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-4, 7-20 stand rejected under 35 U.S.C. §102(b) as being anticipated by published U.S. Pat. Appl. No. 2008/0186166 to Zhou et al.

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Zhou et al. in view of U.S. Pat. No. 6,892,064 to Qi et al..

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Zhou et al. in view of published U.S. Pat. Appl. No. 2007/0208687 to Subramaniam et al..

Record is also made of a telephone interview between applicant's representative and the Examiner which took place on January 12, 2009. The Examiner is thanked for his help and assistance as well as for the courtesies extended to Counsel at that time. During the course of the interview, the present application was extensively discussed, and as a result, applicant now submits this amendment to place the application in formal condition for allowance.

REJECTION UNDER 35 U.S.C. §112

The rejection of claims 1, 11, as filed, under 35 U.S.C. 112, second paragraph as being indefinite for not providing antecedent basis for the "sensitive event-relative information" that is not transmitted to the specified receiver in the receiver-specific message that indicates that one of the specific alarm events recited in the "assigning" step has occurred is hereby respectfully traversed.

Claims 1 and 11 have been amended for the sake of consistency and clarity, as well as to provide antecedent basis for the "sensitive event-relative information" that is not transmitted to the specified receiver. In addition to providing antecedent basis for "sensitive information" the reference to "a specified" alarm event in these claims, which lacked antecedent basis, has been changed to "the" alarm event, which refers to the "an alarm event occurring in the machine" recited in the preamble, and "the" changed to "said" for emphasis.

These amendments, and the limitation to transmitting a message "not containing sensitive event-relevant information" in the independent claims, claims 1 and 11, are supported in paragraphs [0024] and [0025]:

[0024] ... If a specific event occurs, for example a component of the machine fails, the controller-internal alarm system 2 generates a time-stamped alarm message and a data set that contains event-relevant information. This information is transmitted via the bus system B1 to the database 3 and designated for specific receivers. ... If a new event occurs [that a component failure has occurred, for example], the alarm system 2 transmits an e-mail, SMS ("Short Message Service") or voice message via the Internet 5 to the receivers specified for the respective event, e.g. 6a, 6b, and 6c. The receivers 6a, 6b and 6c are all only informed that such event has occurred. The e-mail, SMS or voice message itself does not contain any sensitive information. ... [Parenthetical material supplied from context.]

People who receive that message must then use secure means to obtain the missing "sensitive" information" that was stored in the data base 3 when the alarm occurred. In particular, the database contains information for making a diagnosis of what caused the alarm. That information is accessed by the receiver of the alarm message, but not sent in the alarm message:

[0024] ... The receivers 6a, 6b and 6c are all only informed that such event has occurred. ... When the receiver, e.g. a service technician, receives the corresponding e-mail, SMS or voice message, the technician establishes a connection to the Web server 4 via the Internet 5 that is secured by cryptographic means....]

[0025] ... After such secure connection has been established, the receivers can read and optionally download the information stored in the database and thereby establish a fault diagnosis.

These amendments satisfy the requirements of 35 U.S.C. §112 and do not increase the scope of the claims beyond the previous scope of claim 1. Therefore, further search should not be required.

Withdrawal of the rejection of the claims 1, 11 under 35 U.S.C. §112, second paragraph is thus respectfully requested.

DOUBLE PATENTING

The prospective double patenting rejection of claim 15 as amended for being duplicative of claim 12 as filed, is hereby respectfully traversed. A typographical error in claim 15 has been corrected, making claim 15 now dependent on claim 11, rather than claim 1. Similarly, claim 20 has been amended to be dependent on claim 1, to distinguish it from claim 17.

REJECTION UNDER 35 U.S.C. §102

The rejection of under 35 U.S.C. 102(e) as anticipated by Zhou et al. is hereby respectfully traversed.

Applicant's invention is directed to solving the problem described in paragraphs [0006] to [0008] of the present application. As noted in our previous response to rejections over other art, the increasing use of industrial robots, automated machine tools and other automated processing equipment has: 1) increased the need for remote access to information about automated processes, and also 2) increased the importance of protecting that information from access by

unauthorized third parties. Specifically, since those machines usually operate without human intervention, the technicians who are responsible for monitoring them “float” or “roam” between multiple locations. Therefore, these technicians also need immediate remote access to the detailed event-specific information that can be directly accessed from any one of the multiple controllers that they are responsible for, regardless of where they are when that alarm is generated by any one of their controllers. Such detailed event-specific information cannot be securely communicated to these technicians by conventional means.

For example, in paragraph [0007], applicant notes that conventional emails can be protected using the PKI (public key infrastructure). However, PKI keys do not provide a reliable means for providing troubleshooting information to the technicians because they are not durable, the PKI keys must be periodically reinstalled. Also, since the particular keys needed to send and receive each PKI-encrypted email are designed to be resident on particular individual computers, PKI-encrypted emails can be accessible to the technicians either in the field or at their desks, but not both. Thus PKI encryption is not suitable to provide the event-specific diagnostic information that was stored in the database by the controller to these technicians.

When a particular alarm condition occurs, the disclosed embodiments of the invention provide an alarm message, preferably time-stamped, to one or more technicians assigned to respond thereto. A data set containing event-relevant information is also written to a database with the time-stamped alarm message in a receiver-specific database element of the database [0024], [0028]. Thus, both the message and the database may be receiver-specific, permitting access to the stored information only on a need-to-know basis, that is, only to those responsible for correcting the problem, as described above and on page 12 in the previous response dated May 29, 2008.

In contrast, the published application of Zhou does not address the inadequacies of current encryption schemes, such as PKI, for securing the industrial diagnostic information that technicians need to respond to alarm events detected by a controller from a location that is remote from that controller.

In particular, Zhou at [0022], [0102] and [0111] does not disclose the steps of 1) transmitting a receiver-specific alarm message indicating that an alarm event has occurred in a machine or 2) securely accessing in response to the alarm message the event-relevant information that was written to the database by an industrial controller controlling that machine for the specified receiver of the alarm message, as recited in applicant's independent claims 1 and 11.

On the contrary, in paragraph [0022], rather than alerting users to call in the CMC 40 provides alerts to users if and when they call in to the CMC 40. Furthermore, that "PIN" disclosed by Zhou in [0022] does not provide access to "additional information" provided by the CMC's telephone operators but, instead, provides access to Zhou's "automated" basic message! Thus, the PIN and the CMC alerts disclosed in paragraph [0022] are both inapposite to applicant's claims.

In paragraphs [0022] and [0102], Zhou also discloses providing an alert to user devices 25 as well as to the CMC 40. However, the alert is provided to the CMC 40 so that a CMC system administrator can "find" the "additional information" that the CMC will need to answer the respective users' questions. In contrast, applicant's automated, receiver-specific alarm message omits "sensitive" information, but the "sensitive" event-relevant information is written to the database as information for the specified receiver. Thus the specified receiver of the alarm message can immediately access that event-relevant information in the data base. No system administrator needs to get an extra copy of the alarm message in order to "find" information. Zhou is inapposite because the information is not "written to the database for the specified receiver" as recited in applicant's claims.

Furthermore, the CMC's "additional information" beyond the automated "basic message" disclosed by Zhou in [0022] and [0102] is also not the alarm-specific "sensitive event-relevant information" recited in applicant's claims as being "accessed via a web server using a cryptographically protected communication protocol" but, instead, is provided by a system administrator at the CMC 40. Thus the Zhou's "additional" information is also not the "sensitive information" recited in applicant's claims.

In paragraph [0111] Zhou discloses a Website that routinely collects and displays current and historical sensor values that are used for monitoring patients, children and cargo, not highly-automated industrial machines. Thus, Zhou's values are disclosed as being simply collected and displayed, without any reference to the relevance of particular values to a particular alarm event. In contrast, applicant's claims recite accessing information that was written into the database as the event-relevant information for that alarm that is to be provided to a specified receiver in applicant's claims so that the specified receiver can diagnose the cause of the particular alarm event without delay -- without digging through historical values to find the values that triggered the alarm. Therefore, Zhou's disclosure of the routine parameter reporting that is available from the Website disclosed in [0111] is inapposite to the steps that are recited in applicant's claims: 1) writing information into the database as event-relevant information for the specified receiver, and 2) accessing information that was written into the database as event-relevant information for the specified receiver.

Withdrawal of the rejection of claims 1-4, 7-20 under 35 U.S.C. §102(b) and allowance thereof are thus respectfully requested.

REJECTION UNDER 35 U.S.C. §103(a)

Claim 5, 6 which depend indirectly and directly, respectively, from claim 1 and therefore contain all the limitations thereof, patentably distinguish over the applied prior art in the same manner as claim 1.

Withdrawal of the rejection of claims 5, 6 under 35 U.S.C. §103(a) and allowance thereof are thus respectfully requested.

CONCLUSION

In view of the above, each of the presently pending claims in this application is considered patentably differentiated over the prior art of record and believed to be in

immediate conditions for allowance. Reconsideration and allowance of the present application are thus respectfully requested.

The Commissioner is hereby authorized to charge the amount of \$ to cover the surcharge for presenting ten claims in excess of twenty and any fees which may be required, or credit any overpayment to Deposit Account No. 06-0502.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant would greatly appreciate such a telephone interview.

Respectfully submitted,

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